

Natural Resources Conservation Service

**Civil Engineer
Career Guide**

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Introduction

NRCS Career Mapping

These Career Maps will allow incumbents to identify the steps needed to qualify for higher-level positions in their current career group. Each career map has a career guide that will provide sample training and developmental activities needed to meet competency gaps between the incumbent's current position and his or her desired position. In addition, these maps will be used for recruitment purposes, explaining what a candidate needs to qualify for various positions.

Each occupation's Career Guide will include:

- A list of competencies with proficiency ratings identified for each position
- A sample list of training and experiential activities that are linked to developing each competency
- Clear guidance about how positions relate to each other

Together, these elements will help inform NRCS employees' and candidates' decisions about their careers at NRCS.

The purpose of this document is to provide an overview of the knowledge area requirements and associated training and developmental experiences associated with each position in the Engineering career group. The Career Guides are not intended to be all encompassing, but rather to give users an overview and snapshot of each job within NRCS.

Career Group Description

This is an overall description of the career group.

Table 2. Engineering Career Group Description

Description
These positions are responsible for the planning, design, and construction of engineering works of improvement for any conservation activities taken on by NRCS. These positions require the application of sound engineering principles. This includes adapting proven methods and procedures, as well as devising new design procedures incorporating the latest technological advances in conservation engineering.

Jobs within Engineering

Table 3. Job Titles within Engineering

OPM Series Code	Job Title
0802	Civil Engineering Technician
0810	Civil Engineer
0819	Environmental Engineer
0890	Agricultural Engineer
0801	Assistant State Conservationist - Operations

This is a description of any internship program NRCS offers that prepares individuals for hiring into this career group.

Table 4. Engineering Intern Description

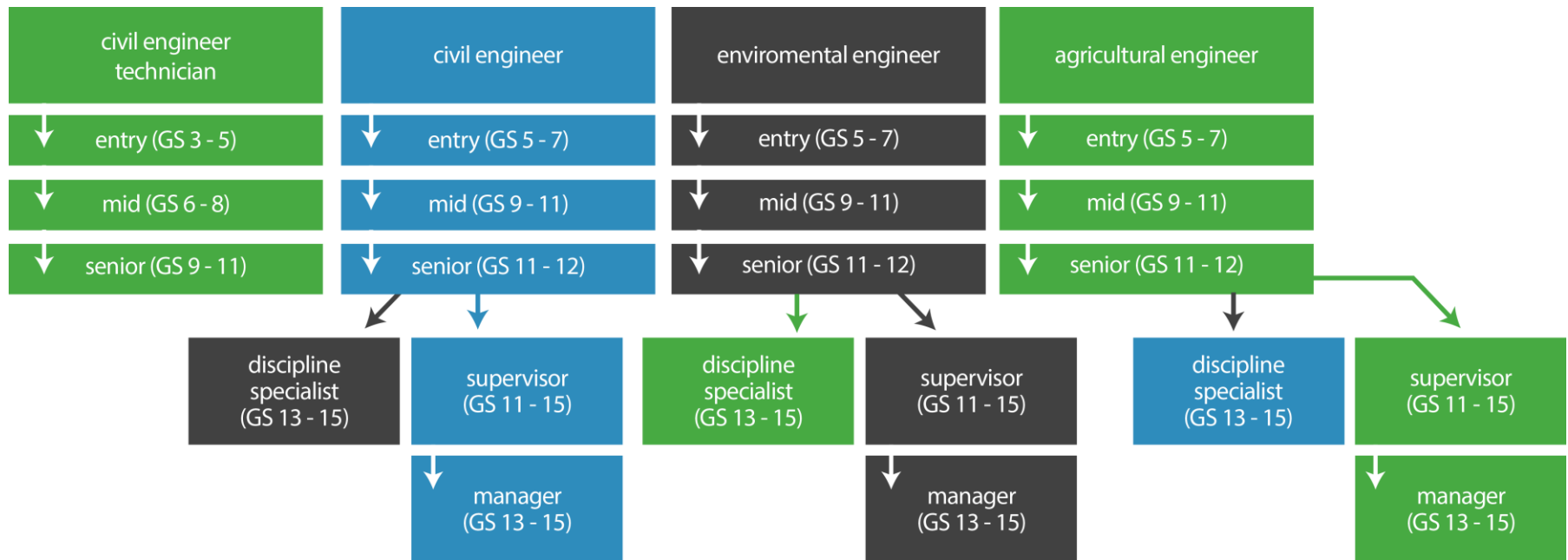
The incumbent serves as an engineer trainee and assistant. The trainee learns to assist in overall planning, design, installation, and maintenance of the engineering phases of soil and water conservation practices.
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Crosswalk of Career Levels to the General Schedule

This table reflects the General Schedule (GS) levels associated with the individual Career Level labels. Definitions of the Career Levels are included in the Appendix.

Table 5. GS by Career Level

Job	Entry	Mid	Senior	Dis Spec	Sup	Mgr
Civil Engineering Technician	GS 3-5	GS 6-8	GS 9-11			
Civil Engineer	GS 5-7	GS 9-11	GS 11-12	GS 13-15	GS 11-15	GS 13-15
Environmental Engineer	GS 5-7	GS 9-11	GS 11-12	GS 13-15	GS 11-15	GS 13-15
Agricultural Engineer	GS 5-7	GS 9-11	GS 11-12	GS 13-15	GS 11-15	GS 13-15



Engineering Job Descriptions

This is a general overview of each Engineering job, intended to provide a common framework for describing what the job is.

Table 6. Engineering Job Descriptions

Job	Description
Civil Engineering Technician	This person provides engineering assistance, working with landowners, groups, and units of government to apply and maintain a variety of conservation practices. This job also includes the responsibility of designing engineering practices, preparing engineering drawings, computing quantities, and preparing cost estimates. This position does not require an engineering degree.
Civil Engineer	This person provides engineering assistance, working with landowners, groups, and units of government to apply and maintain a variety of conservation practices. This person is responsible for providing technical guidance and the overall planning, design, installation, and maintenance of the civil engineering phases of conservation activities.
Environmental Engineer	This person provides engineering assistance, working with landowners, groups, and units of government to apply and maintain a variety of conservation practices. This person is responsible for providing technical guidance and the overall planning, design, installation, and maintenance of the environmental engineering phases of conservation activities.
Agricultural Engineer	This person provides engineering assistance, working with landowners, groups, and units of government to apply and maintain a variety of conservation practices. This person is responsible for providing technical guidance and the overall planning, design, installation, and maintenance of the agricultural engineering phases of conservation activities.

Job	Description
Assistant State Conservationist - Operations	This person manages and directs functions involved in planning, organizing, and implementing a comprehensive soil, water, engineering, and resource conservation and development program for the state. The incumbent of this position has responsibility for operations and internal controls.

Overall Engineering Job Duties

These are three major duties associated with all Career Levels in a job.

Table 7. Overall Engineering Job Duties

Job	Duty 1	Duty 2	Duty 3
Civil Engineering Technician	Conducts planning and data collection	Conducts analysis and design	Performs quality assurance of conservation practices
Civil Engineer	Conducts planning and data collection	Conducts analysis and design	Performs quality assurance of conservation practices
Environmental Engineer	Conducts planning and data collection	Conducts analysis and design	Performs quality assurance of conservation practices
Agricultural Engineer	Conducts planning and data collection	Conducts analysis and design	Performs quality assurance of conservation practices
Assistant State Conservationist - Operations	Formulates and establishes the State natural resource conservation policies and programs based on broad national agency objectives	Develops and implements a system of operational and program assessments and reviews to evaluate effectiveness of conservation planning and practices	Develops and maintains effective working relationships with the conservation districts and the State-level natural resources agencies

Specifics by Job – Civil Engineer

Job Duties by Career Level – Civil Engineer

These are three major duties associated with the individual Career Levels for the Civil Engineer job. In general, these are slight deviations of the Overall Duties, intended to show the differences in responsibility between the Career Levels.

Table 15. Career Level Duties – Civil Engineer

Job Duty	Entry	Mid	Senior	Dis Spec	Sup	Mgr
Performs site investigations, survey work, CAD work, and data collection	✓					
Prepares and reviews engineering designs and reports, which includes design calculations and plan preparation	✓					
Performs quality assurance to ensure that projects get carried out as designed and recommends additions as needed	✓					
Performs, trains, and provides guidance for site investigations, survey work, CAD work, and data collection		✓				
Prepares, provides training, provides guidance, and reviews engineering designs and reports which includes design calculations and plan preparation		✓				

Job Duty	Entry	Mid	Senior	Dis Spec	Sup	Mgr
Performs, provides training for, and guidance on quality assurance, ensuring projects are carried out as designed and recommends additions as needed		✓				
Performs, trains, oversees, and provides guidance for site investigations, survey work, CAD work, and data collection			✓			
Prepares, trains for, oversees, provides guidance, and reviews engineering designs and reports including design calculation and plan preparation			✓			
Performs, trains, oversees, and provides guidance on quality assurance, ensuring projects are carried out as designed and recommends additions as needed			✓			
Provides discipline-specific technical leadership for planning and data collection				✓		
Provides discipline-specific technical leadership for engineering analysis and design				✓		
Provides discipline-specific technical leadership for quality assurance				✓		
Performs, and supervises individuals performing site investigations, survey work, CAD work, and data collection					✓	

Job Duty	Entry	Mid	Senior	Dis Spec	Sup	Mgr
Performs and supervises the individuals creating engineering designs and reports, which includes design calculations and plan preparation					✓	
Performs and supervises individuals performing quality assurance to ensure that projects are carried out as designed and recommends additions as needed					✓	
Directs and leads the technical program						✓
Finalizes and issues technical policies and procedures in accordance with Agency priorities						✓
Manages resources, dollars, and people to meet Agency priorities						✓

Foundational Competencies – Civil Engineer

These are the top foundational competencies of the job, applicable at all Career Levels. The set of top foundational competencies and associated proficiency levels should differentiate the job from other jobs within and across the career groups. Proficiency Rating Definitions are included in the Appendix. This list includes the top competencies.

**Table 16. Foundational Competencies –
Civil Engineer**

Foundational Competency	Proficiency Rating					
	Entry	Mid	Senior	Dis Spec	Sup	Mgr
1. Attention to Detail	1	3	4	4	4	5
2. Organizing and Prioritizing Work	1	2	4	4	4	5
3. Representing the Agency	1	2	3	3	4	5
4. Resource Management	1	2	3	3	4	5
5. Technology Management	1	2	4	4	4	5
6. Organizational Awareness	1	2	3	3	4	5
7. Oral Communication	1	2	3	3	4	5
8. Written Communication	1	2	3	3	4	5
9. Conflict Management	1	2	4	4	4	5
10. Interpersonal Skills	1	2	4	4	4	5
11. Teamwork	1	2	4	4	4	5
12. Creativity and Innovation	1	2	4	4	4	5
13. Decisive Judgment and Decision Making	1	2	4	4	4	5
14. Problem Solving	1	2	4	4	4	5

Recommended Foundational Experience – Civil Engineer

These are the top experiences (e.g., stretch assignments), based on the Foundational Competencies, that an individual can participate in to prepare to be a viable candidate for the job.

Table 17. Recommended Foundational Experience – Civil Engineer

Foundational Competency	Career Level	Foundational Experience
Attention to Detail	Entry	Reviews own work to verify that work adheres to given instructions, applicable regulations, and guidelines
		Edits own work products for basic errors (e.g., grammatical, typographical) before submitting to supervisors
		Collects and enters data into electronic information systems accurately
	Mid	Ensures own products and services are complete, accurate, and in accordance with established policies, standards/specifications, and guidelines
		Reviews the quality of information or data provided by others for accuracy and completeness
		Conducts thorough analysis to provide accurate and complete information in order to make decisions
	Sr/Dis Spec/ Sup	Ensures own and others' work products are technically accurate, reliable, and in accordance with established policies, standard/specifications, and guidelines
		Reinforces importance of high-quality products and services with peers and team members
		Prepares manuals, guidelines, or standard operation procedures to minimize mistakes or errors
		Serves in an advisory capacity as a recognized expert in ensuring high quality products
	Mgr	Establishes a climate for the organizational unit that emphasizes the importance and impact of high-quality products and services
		Finalizes or oversees the development of manuals, guidelines, or standard operating procedures to minimize mistakes or errors

Foundational Competency	Career Level	Foundational Experience
		Oversees the integration of multi-faceted information from various subject areas into a policy, document, model, etc.

Foundational Competency	Career Level	Foundational Experience
Organizing and Prioritizing Work	Entry	Organizes and accomplishes assigned tasks/work to ensure timely delivery of information, products, and/or services
		Seeks guidance on setting work/task priorities and follows priorities as assigned
		Maintains appropriate files and records to document progress toward goals
	Mid	Prepares routine plans, including identifying timelines and scheduling tasks
		Prioritizes routine tasks to ensure timely delivery of information, products, and services
		Systematically breaks large tasks down into smaller, more manageable subtasks
	Sr	Prepares plans for complex and/or controversial projects and identifies resources to deliver projects within established parameters
		Develops progressive long-term strategic plans and business plans
		Reviews project plans of others, critiquing and recommending changes when needed
		Defines measurable and observable work outcomes for self and work unit that are fully aligned with and advance the Agency's goals and strategic direction
	Dis Spec/ Sup	Prepares plans for complex and/or controversial projects and identifies resources to deliver projects within established parameters
		Develops progressive long-term strategic plans and business plans
		Reviews project plans of others, critiquing and recommending changes when needed
		Defines measurable and observable work outcomes for self and work unit that are fully aligned with and advance the Agency's goals and strategic direction
	Mgr	Anticipates changing workload requirements well in advance and advocates for needed resources based on strategy and planning
		Plans and implements multi-agency, multi-year, large-scale efforts
		Coordinates work with multiple internal or external parties to ensure results are achieved that support the Agency's goals and strategic direction

Foundational Competency	Career Level	Foundational Experience
Representing the Agency	Entry	Appropriately supports the Agency's goals in interactions with others
		Maintains professional attitude and actions in all business situations
		Develops knowledge of relevant policies, rules, and procedures for representing the Agency (e.g., standards of conduct) and follows them accordingly
	Mid	Recognizes confrontational situations with customers and refers/redirects them appropriately
		Promotes support for the mission and programs of the Agency through all forms of communication
		Represents the Agency in small group presentations or meetings with customers
		Participates in Agency outreach activities (e.g., county fairs, job fairs)
	Sr/Dis Spec	Takes effective steps to resolve confrontational situations with customers in a manner that reflects positively on the Agency
		Promotes the Agency in a professional manner that educates others, protects its interests, and enhances its image and reputation
		Represents the Agency as a professional expert on natural resource conservation issues (e.g., presents a technical paper at a conference)
	Sup	Serves as a role model and advises others on presenting a professional image of the Agency to enhance trust and credibility
		Engages with others in a manner that earns their respect and advances the goals and objectives of the Agency
		Serves as an Agency representative on interagency teams and projects
		Represents the Agency's interests to a variety of parties (e.g., at technical group meetings, to universities)
	Mgr	Manages complex and difficult situations with confidence and decisiveness, enhancing the reputation and image of the Agency
		Meets with elected or appointed officials to provide Agency and program information for decision-making
		Promotes and justifies the Agency's programs and actions in contentious situations

Foundational Competency	Career Level	Foundational Experience
		Markets the Agency's mission and programs through media outlets

Foundational Competency	Career Level	Foundational Experience
Resource Management	Entry	Develops knowledge of proper use of government resources (e.g., travel card) and completes required training courses (e.g., GPS training) to effectively use resources
		Appropriately uses available resources (e.g., obtains proper authorization, protects resources, reports damages/misuse in accordance with policy)
		Maintains appropriate documentation for resource use (e.g., timesheet, vehicle usage)
		Identifies apparent maintenance needs to job-related resources (e.g., equipment)
	Mid	Identifies and requests or obtains necessary job-related resources (e.g., office supplies, training) according to policy
		Identifies and reports misuse and/or fraudulent behavior
		Maintains job-related tools and resources to keep resources in good working order
	Sr/ Dis Spec	Requests and/or acquires resources (e.g., supplies or equipment) based on policy, workload analysis, and supporting documentation
		Communicates and implements policies and guidance to appropriately manage resources and ensure understanding
		Tracks and documents inventories, usage, and disposal of resources
		Fully utilizes available resources, ensuring resources are not wasted
	Sup	Implements, monitors and ensures that resources for work unit are distributed and utilized in an efficient manner (e.g., personnel, accountable property)
		Develops procedures, policies, and guidelines for appropriately managing resources to prevent misuse, waste, and abuse of Agency resources
		Develops innovative strategies to track usage and maximize utilization of resources
	Mgr	Handles resource requirements for extremely complex projects/assignments, monitoring and regularly redirecting resources to maximize results across initiatives

		Develops and implements flexible and innovative approaches to stretch limited resources or leverage additional resources, resulting in greater contributions to the Agency
		Partners with Agency and Department leadership to identify tools to manage resources

Foundational Competency	Career Level	Foundational Experience
Technology Management	Entry	Develops a basic awareness of technology (i.e., eFOTG, Customer Service Toolkit, etc.) needed to accomplish specific duties
		Follows specific guidance to safeguard technology to ensure the prevention of abuse, waste, loss, or unauthorized use (i.e., locking computer, using passwords to manage files)
		Completes security awareness training
	Mid	Understands the process to gain access to and utilize technical resources
		Demonstrates knowledge of current technological developments and appropriately applies this knowledge to achieve results
		Identifies problems or issues with technology systems and/or equipment
		Adapts processes to keep pace with new technological developments
	Sr/Dis Spec/Sup	Resolves identified problems or issues with technological systems and equipment
		Provides assistance and instruction on new technology to users
		Identifies and justifies the need for new technology and develops new and/or revised systems or equipment for large scale use
		Coordinates with others internal and external to the Agency to ensure that technology is effectively utilized by the Agency
	Mgr	Effectively anticipates future technological developments and takes steps to ensure that new technology is easily incorporated to achieve the objectives of the Agency
		Identifies new technological resources available internal and external to the Agency, and skillfully gains access to these resources
		Develops plans and/or recommendations to address new and future technological needs

Foundational Competency	Career Level	Foundational Experience
Organizational Awareness	Entry	Develops a basic understanding of and carries out basic tasks in accordance with the Agency's mission, vision, functions, values, and policies/procedures
		Acquires an understanding of the Agency's organizational structure and appropriate interactions between staff
		Participates in NRCS training activities and attends relevant organizational meetings
	Mid	Applies sufficient knowledge of Agency to independently perform varied assignments
		Takes initiative to increase understanding of relevant organizational processes through self-directed activities
		Articulates basic information regarding the Agency's vision, mission, and functions to customers and partners
	Sr/Dis Spec	Demonstrates and maintains a thorough understanding of the Agency's mission, functions, values, and policies/procedures
		Understands the interrelationships between various units, organizations, and partners and how these affect the Agency's mission
		Applies depth or breadth of knowledge of Agency to guide others on varied assignments
	Sup	Contributes to the development of the strategic plan for assigned area of responsibility
		Demonstrates a thorough understanding of the Agency's mission, functions, values, applicable policies and procedures, and internal and external factors that may impact NRCS projects
		Applies depth and breadth of knowledge of Agency to perform well and/or guide others on the full range of complex or varied assignments that impact the reputation of the Agency

Foundational Competency	Career Level	Foundational Experience
	Mgr	Develops Agency strategic objectives and goals
		Utilizes knowledge of Agency structure to realign functions and/or positions to create more effective and efficient workflows
		Demonstrates an understanding of the impact of Congressional action on the Agency
		Demonstrates expertise regarding organizational systems and the internal and external factors impacting NRCS projects
		Seeks out and capitalizes on opportunities to leverage knowledge of how Agency and processes work to make contributions with far-ranging impact

Foundational Competency	Career Level	Foundational Experience
Oral Communication	Entry	Actively listens when others are speaking
		Asks questions to clarify understanding
		Provides in-person briefings to immediate supervisors and others, as directed, on work assignment/task status
		Uses appropriate language and grammar when speaking to others
	Mid	Presents information in own area of expertise to small or moderately-sized groups
		Communicates information clearly and concisely to avoid miscommunication
		Answers basic or routine questions from customers, vendors, or other individuals and tailors responses appropriately
	Sr/Dis Spec	Makes oral presentations to a variety of audiences of varying size, conveying main ideas and supporting points clearly and concisely
		Handles questions from others appropriately, asking clarifying questions when necessary and quickly adapting to unforeseen circumstances
		Seeks input from others and carefully listens to others' ideas and comments
		Adapts communication style to audience and their level of understanding
	Sup	Leads presentations and briefings for high-level internal and external stakeholders
		Clearly explains benefits of programs and policies to stakeholders to improve understanding
		Responds to difficult/complex questions with ease, responding promptly and accurately in a clear, concise, credible, and courteous manner
		Presents at state-wide and/or national/professional meetings or conferences
		Communicates with diverse populations (e.g., different language, special needs)
	Mgr	Presents highly complex information articulately when meeting with key executives or public officials, including issues with high-visibility
		Communicates sensitive information on topics in vague or uncertain situations without misleading the audience
		Uses communication to produce enthusiasm and foster an atmosphere of open exchange and support

Foundational Competency	Career Level	Foundational Experience
Written Communication	Entry	Understands the Agency's style, format guidelines, and filing codes procedures
		Uses appropriate grammar, punctuation, and spelling
		Clearly communicates information in writing to supervisor and colleagues
		Writes basic internal communications
	Mid	Drafts concise, straightforward summaries of information (e.g., portions of plans/reports)
		Prepares routine written communications that are accurate, clear, concise, and well-organized
		Answers routine or basic questions to internal and external customers appropriately (e.g., tone, detail) and in a timely manner when responding in writing
		Utilizes the Agency's style, format guidelines, and filing code procedures
	Sr	Interprets and prepares summaries or recommendations
		Reviews and edits reports or materials prepared by others for grammar, punctuation, spelling, and conformance to style and format guidelines
		Utilizes available resources, such as an editor, to proof and edit documents for distribution
		Addresses issues with internal and external customers appropriately (e.g., tone, detail) and in a timely manner when responding in writing
	Dis Spec	Interprets and prepares summaries or recommendations
		Reviews and edits reports or materials prepared by others for grammar, punctuation, spelling, and conformance to style and format guidelines
		Utilizes available resources, such as an editor, to proof and edit documents for distribution
		Addresses issues with internal and external customers appropriately (e.g., tone, detail) and in a timely manner when responding in writing
	Sup	Writes complex technical reports, plans, and procedural manuals using clear terminology and concise format for use by decision makers
		Recognizes the most critical issues and considers ramifications of written communications, tailoring communications accordingly

Foundational Competency	Career Level	Foundational Experience
		Writes clear, concise issue papers or policy documents on complex topics establishing Agency-wide guidance or guidelines
	Mgr	Writes, reviews, and publishes advanced technical/program findings and guidelines to be made available to other groups and agencies
		Prepares highly complex written communication for national distribution that have significant implications for the Agency
		Communicates persuasively about programs, projects, and proposals in writing with multiple stakeholders
		Addresses Congressional inquiries with straightforward, concise written responses

Foundational Competency	Career Level	Foundational Experience
Conflict Management	Entry	Resolves minor work-related disagreements or conflicts with peers
		Actively listens to others and tries to understand their perspectives
		Directs escalating disagreements or conflicts to manager or supervisor, when necessary
		Develops knowledge of relevant policies, rules, and procedures (i.e., conflict management policies) and follows them accordingly
	Mid	Develops options to resolve disagreements or conflicts that require resolution at a higher level
		Considers all sides of an issue when discussing an issue with others
		Anticipates situations that have the potential for conflict
	Sr/Dis Spec/ Sup	Takes steps to address, resolve, and minimize the escalation of complex or sensitive issues
		Balances the needs of different team members or units, achieving highly effective resolutions
		Identifies subtle indicators of conflict and mitigates emerging issues
		Manages conflict by serving as an unofficial mediator
	Mgr	Resolves conflicts arising at multiple organizational levels due to competing objectives, limited resources, or differing perspectives
		Leads consensus process on organizational unit's response to a controversial issue
		Develops consensus among multiple stakeholders with opposing viewpoints on critical/complex issues
		Develops, practices, and trains others in the application of mediation techniques

Foundational Competency	Career Level	Foundational Experience
Interpersonal Skills	Entry	Interacts with coworkers in a tactful manner
		Responds to others' inquiries or questions courteously and in a timely fashion
		Treats everyone fairly, equitable, and professionally, respecting individual differences and diversity
	Mid	Builds productive and professional relationships with coworkers inside own work group
		Seeks opportunities to develop professional relationships with others inside and outside of Agency
		Interacts with customers in a tactful manner and adjusts behavior appropriately
	Sr/Dis Spec/ Sup	Builds and maintains a network of professional relationships with staff and coworkers, as well as people in other offices or states
		Reads and interprets others' behavior during interactions and uses this insight to make necessary adjustments in the moment of the interaction
		Promotes an atmosphere of approachability, resulting in individuals seeking information or advice
	Mgr	Maintains a calm, open demeanor while resolving highly sensitive or controversial issues, leading by example
		Builds and maintains strategic interpersonal relationships and alliances across agencies
		Fosters a climate that respects individual differences and diversity
		Forms effective working relationships with problem/controversial employees

Foundational Competency	Career Level	Foundational Experience
Teamwork	Entry	Provides help or assistance to team members when asked, regardless of the task
		Participates in efforts to improve team cooperation and trust
		Communicates openly and candidly with other team members
		Recognizes team boundaries and identifies own role and responsibilities on team
	Mid	Proactively offers assistance to ensure team achieves goals and objectives
		Considers other work group members' priorities, needs, and concerns
		Works collaboratively and flexibly with others to accomplish shared goals
		Shares relevant skills and knowledge with others
	Sr/Dis Spec/Sup	Is cognizant and respectful of others' time
		Solicits others' contributions and opinions, understanding their perspectives and integrating them into decisions and plans, as appropriate
		Maintains a positive team atmosphere by recognizing and directly addressing any issues that are impacting team cohesion and performance
		Creates opportunities for sharing of knowledge, skills, and best practices within and across work units and organizations
	Mgr	Creates effective teams with structure and membership appropriate to the task
		Establishes communication processes that ensure work activities are well-integrated across teams, business units, or agencies
		Promotes open, direct, candid, and regular exchanges of information within and outside of the organizational unit
		Solicits ideas to gain an understanding of the priorities, needs, and concerns of stakeholders internal and external to the Agency
		Assembles and facilitates teams consisting of members from different agencies, areas of expertise, and opinions in order to address complex issues

Foundational Competency	Career Level	Foundational Experience
Creativity and Innovation	Entry	Considers and is open to innovative ideas
		Offers useful new ways to accomplish routine work, such as proposing a more efficient way to perform a task
		Participates in brainstorming sessions
	Mid	Explores, identifies, and recommends new ideas and approaches for performing routine work
		Contributes to brainstorming sessions and offers new ideas
		Experiments with new ways of presenting data or information to others
	Sr/Dis Spec/ Sup	Devises new methods for planning and carrying out program or project objectives at the state and/or regional level
		Works with individuals in other content areas to think of new and innovative approaches to accomplish work in more efficient and effective ways
		Develops innovative or creative solutions in response to new and emerging issues
		Facilitates brainstorming sessions with stakeholders from diverse backgrounds and perspectives in order to generate new and different ideas
	Mgr	Devises new methods, procedures, and approaches that have a far-reaching impact (i.e., nation-wide, national, or Agency-wide)
		Considers the ramifications of new policies, procedures, methods, approaches, etc. and their impact across programs and/or geopolitical boundaries
		Anticipates how work processes may be affected by changes in the environment and develops creative alternatives
		Writes Agency-wide policies and procedures in a manner that allows for future flexibility and innovation

Foundational Competency	Career Level	Foundational Experience
Decisive Judgment and Decision Making	Entry	Provides straightforward answers to routine questions
		Determines who to go to for help making decisions in a variety of situations
		Makes sound and timely decisions in well-defined, low-risk situations that affect own work
	Mid	Utilizes decision-making methods that have been shown to work in the past
		Considers alternative courses of action when making decisions
		Utilizes available information as a basis for making decisions
		Makes sound and timely decisions in a variety of situations affecting own work
		Recognizes when information is lacking and seeks out additional information to assist in decision-making
	Sr/Dis Spec/ Sup	Considers and adjusts course of action when current strategy is unsuccessful, even when the current strategy was fully supported
		Considers the costs, risks, and benefits when making decisions and chooses courses of action in which the benefits outweigh the risks
		Makes decisions and takes action when complete knowledge and information are not available
		Follows through with a carefully thought-out decision, even when faced with resistance or opposition
	Mgr	Makes timely decisions regarding highly complex technical, administrative, or policy issues
		Makes decisions or recommendations in the most sensitive, difficult, and ambiguous situations that have significant organizational impact
		Takes an Agency-wide, strategic view when making decisions

Foundational Competency	Career Level	Foundational Experience
Problem Solving	Entry	Solves straightforward problems that have occurred in the past
		Performs evaluations and analyses of information to draw reasonable, logical conclusions for basic problems
		Identifies the problem and information that may be relevant to a solution
	Mid	Applies proven solutions, strategies, and/or procedures to solve problems
		Determines cause of a customer problem and takes approved, corrective actions
		Identifies problems, considers available information, and evaluates alternative solutions to problems affecting own work
	Sr/Dis Spec/ Sup	Identifies and leverages resources and expertise, internal or external to the work unit, to address complex problems
		Synthesizes information from internal and external sources to develop an action plan addressing complex issues (e.g., applying information from NHQ to State problems; updating guidelines with new technologies)
		Identifies connections between seemingly unrelated pieces of information to resolve difficult or ambiguous problems
	Mgr	Improves efficiency by developing, planning, and implementing multi-tier solutions to address highly complex or unprecedented problems
		Resolves problems of particular difficulty, sensitivity, or strategic importance
		Identifies and resolves subtle issues and/or trends and their causes across organizational groups
		Manages a group's problem solving process, assisting others in staying focused on the current problem and systematically working through the issue

Leadership Competencies

These are the top leadership competencies of the job, applicable at all Career Levels. The set of leadership competencies and associated proficiency levels should differentiate the job from other jobs within and across the career groups. Proficiency Rating Definitions are included in the Appendix. This list includes the top competencies.

**Table 18. Leadership Competencies –
Civil Engineer**

Leadership Competency	Proficiency Rating					
	Entry	Mid	Senior	Dis Spec	Sup	Mgr
1. Fiscal Responsibility	NA	NA	2	2	3	4
2. Assigning, Evaluating, and Monitoring Work	NA	NA	2	2	4	5
3. Developing Others	NA	NA	3	3	4	5
4. Human Resource Management	NA	NA	2	2	3	5
5. Team Building	1	2	3	3	4	5
6. External Awareness	1	2	3	3	4	5
7. Relationship Management	1	2	3	3	4	5
8. Leveraging Diversity	1	3	4	4	4	5
9. Political Savvy	NA	NA	NA	NA	1	3
10. Vision	NA	NA	2	2	4	5
11. Strategic Thinking and Action	NA	NA	2	2	3	5

Recommended Leadership Experience – Civil Engineer

These are the top experiences (e.g., stretch assignments), based on the Leadership Competencies, that an individual can participate in to prepare to be a viable candidate for the job.

Table 19. Recommended Leadership Experience – Civil Engineer

Leadership Competency	Career Level	Leadership Experience
Fiscal Responsibility	Sr/Dis Spec	Establishes cost-effective limited-focus budgets that incorporate the appropriate financial resources
		Justifies requested budget allocation to management in relation to program objectives
		Adheres to financial policies including budget execution, obligations and payments (e.g., approves payments when work is completed)
	Sup	Monitors expenditures to ensure project/programs operate within budget and uses proper budget accounting
		Makes effective and efficient use of financial resources
		Safeguards financial resources to prevent fraud, waste, and abuse
		Prepares and monitors unit's annual operating budget
		Develops an awareness of appropriation laws
	Mgr	Demonstrates a comprehensive knowledge of Agency financial processes
		Understands and appropriately applies provisions of appropriation law
		Establishes cost-effective budgets that tap into financial resources from conventional and unconventional sources
		Establishes procedures to ensure that projects/programs operate within budget and uses proper budget accounting

Leadership Competency	Career Level	Leadership Experience
Assigning, Evaluating, and Monitoring Work	Sr/ Dis Spec	Assigns work based on employees' experience and competency level
		Encourages feedback from staff when assigning and evaluating work
		Understands work requirements and staff capabilities
		Clearly communicates expectations and work requirements to employees
	Sup	Coordinates tasks and monitors performance on tasks to exceed unit objectives
		Coordinates multi-function projects that require multiple groups of employees, stakeholders, etc.
	Mgr	Adjusts work activities to ensure seamless integration and effectiveness across work units during periods of rapid change in the operating environment and/or when working with narrow windows of time
		Establishes and clearly communicates expectations that are linked to unit objectives and the Agency's mission to unit leaders engaged in highly complex work activities
		Coordinates and monitors performance on complex programs (e.g., special initiatives) across partners to meet both organizational and unit objectives

Leadership Competency	Career Level	Leadership Experience
Developing Others	Sr/Dis Spec	Proactively provides regular, timely, and constructive developmental feedback to employees and fosters developmental opportunities that improve work performance
		Uses performance information and solicits employee input to identify development needs
		Identifies appropriate developmental opportunities and, where possible, ensures employees receive training or development in a fair and equitable manner
	Sup	Identifies developmental opportunities to help employees perform a wide range of highly complex work activities
		Identifies or creates opportunities (e.g., stretch assignments, on-the-job training, detail assignments) for employees to pursue self-development activities
		Builds and uses systems and processes to develop employees to meet current and emerging requirements
	Mgr	Identifies creative developmental strategies to address skill needs of workforce
		Sets an example and guides others across the Agency to be skillful trainers, coaches, and mentors
		Establishes or promotes a culture around getting others to maximize their potential

Leadership Competency	Career Level	Leadership Experience
Human Resource Management	Sr/Dis Spec	Conducts interviews with candidates
		Contributes to overall staffing plan
		Requests and obtains staff according to HR policy
		Makes recommendation to supervisor and leadership for performance awards
	Sup	Monitors Agency needs to identify, recruit, and select individuals
		Follows HR policies and communicates these policies to employees
	Mgr	Identifies poor performers and creates opportunities for poor performers to improve performance; identifies opportunities for ADR when necessary
		Assesses current and emerging priorities, performance information, and employee goals to identify both immediate and long-term organizational needs; ensures individuals receive necessary training to meet these needs
		Anticipates skill needs that are consistent with organizational trends and changing priorities; identifies creative recruitment strategies to address these needs

Leadership Competency	Career Level	Leadership Experience
Team Building	Entry	Provides assistance when help is needed to accomplish team goals
		Shares relevant information with team members
		Encourages team members to develop and maintain collaborative relationships with each other
	Mid	Is proactive in recognizing when help is needed and provides assistance to help the team in accomplishing goals
		Independently offers assistance and provides support to advance goals
		Clearly articulates team goals and objectives to team members and explains why they are on the team
		Restructures roles, responsibilities, and possibly team members of dysfunctional teams to meet overall objectives
	Sr/ Dis Spec	Integrates new team members into structure and assists them in transitioning to role
		Understands team dynamics and uses knowledge to motivate team members
		Gains support and buy-in throughout product/project development to gain support for product/project throughout the Agency
		Obtains feedback from team members to improve product/project
		Restructures roles, responsibilities, and possibly team members of dysfunctional teams to meet overall objectives
	Sup	Builds and maintains a positive team atmosphere by demonstrating and promoting collaboration among work units
		Creates senior-level teams to design and implement requirements for new systems and procedures
		Leads a team to resolve challenging or controversial regional concerns/issues
	Mgr	Champions initiatives, leverages opportunities, and minimize obstacles, thereby easing the path to achieving different units' goals
		Leads a team to resolve challenging or controversial Agency-wide legislative and regulatory policy issues
		Recognizes effective teams and integrates best practices
		Inspires teams to achieve success

Leadership Competency	Career Level	Leadership Experience
External Awareness	Entry	Maintains awareness and evaluates the impact of external events on current processes
		Responds to environmental, budgetary, political, or other events and circumstances requiring change
		Effectively alters plans and redistributes resources to address changing requirements
		Develops an awareness of local, national, and/or international policies when instructed by supervisor
		Talks to customers and partners to understand their needs and issues
	Mid	Consults with leadership regarding the impact of how external factors may affect the Agency
		Considers external policies and trends when reviewing correspondence, reports, and policy documents
		Gathers and summarizes information to predict stakeholder views on a new policy
	Sr/Dis Spec	Considers external factors that may affect the unit's work and uses this knowledge in accomplishing work
		Refocuses efforts, redistributes resources, or otherwise overcomes roadblocks in consideration of external factors (e.g., changes in administration, or a new Farm Bill) to achieve NRCS objectives
		Synthesizes complex information gathered from a variety of external sources and disseminates it to staff
		Understands how external factors (e.g. political events) impact the Agency
	Sup	Contributes to the development of long-term goals by recommending effective strategies based on external factors that may possibly impact the Agency
		Anticipates how work processes may be affected by changes in the external environment and develops alternatives
		Provides policy advice to officials which are consistent with local, national, and international policies and trends

Leadership Competency	Career Level	Leadership Experience
	Mgr	Demonstrates an in-depth understanding of external factors that may affect the Agency's work and uses this knowledge constructively in establishing goals and priorities and accomplishing work
		Anticipates how work processes may be affected by changes in the external environment or events and, in response, develops creative and highly effective alternatives
		Develops programs or initiatives (e.g., WHIP, ecological site descriptions) taking into account the diverse views and needs of other agencies or external organizations

Leadership Competency	Career Level	Leadership Experience
Relationship Management	Entry	Develops a basic knowledge of what organizations, agencies, or groups NRCS partners with (i.e., FSA, Soil and Water Conservation Districts).
		Identifies individuals or groups whose input would improve or facilitate one's own task accomplishment
	Mid	Works with individuals across work units to address mutual issues and concerns
		Builds a network within the Agency by proactively communicating with employees outside of own work unit on a regular basis
		Coordinates with internal and external partners and customers regarding new strategies to ensure effective coordination
	Sr/Dis Spec	Builds consensus by understanding and considering common goals and by soliciting input from, and promoting trust between, various parties
		Works with individuals outside of Agency to address mutual issues and concerns
		Develops and manages relationships with staff and State leadership to gain endorsement for initiatives and help achieve common goals
	Sup	Partners with various groups by sharing information and resources across multiple organizational levels, including updates/changes
		Identifies new and/or non-traditional partners and new ways to develop relationships with partners that will have a positive impact on Agency goals
		Develops and manages relationships with national leadership to gain endorsement for initiatives and help achieve common goals
	Mgr	Initiates, develops, publicizes, and garners support for programs and policies by meeting with partners, stakeholders, employees, customers, and other interested parties
		Works across Federal, state, and local agencies/authorities to coordinate conservation efforts (e.g., cooperative agreements, coordinating the EWP program)
		Establishes long-lasting relationships with non-traditional partners to develop relationships that will have a positive impact on Agency goals

Leadership Competency	Career Level	Leadership Experience
Leveraging Diversity	Entry	Adheres to EEO policies, goals, objectives, and philosophies by dealing with everyone fairly, equitably, and professionally
		Demonstrates knowledge of Agency policy in regard to diversity
		Meets with staff to obtain input on diversity issues within workgroup
		Develops an awareness of situations which could potentially lead to allegations of harassment or discrimination
	Mid	Promotes diversity by assisting, sponsoring, or joining an employee group or other professional diversity-related association, or participates in outreach/recruitment efforts
		Monitors the work environment to identify situations which could potentially lead to allegations of harassment or discrimination
		Builds a high quality, diverse workforce and ensures fairness by recruiting, hiring, promoting, and providing developmental opportunities in a fair and equitable manner
		Encourages employee participation in diversity-related activities and organizations
	Sr/Dis Spec/ Sup	Builds a climate of trust by demonstrating behavior that clearly values individual differences and diversity
		Makes self and employees aware of any programs that support diversity, such as employee groups, educational entities, or professional associations
		Encourages employees to express their individual views toward improving work products, services, processes, teamwork, and the work environment itself
	Mgr	Establishes rules and practices to ensure diversity and collaboration within the Agency; works with the different unit leaders to effectively leverage diverse thought, opinions, experiences, and backgrounds to achieve the vision and mission of the Agency
		Actively promotes NRCS diversity programs and initiatives, highlighting the Agency's commitment to diversity and its value to the organization; facilitates participation in diversity-related programs and initiatives
		Proactively monitors the workplace to identify situations that could potentially lead to allegations of harassment or discrimination, and establishes practices/creates an environment to prevent such situations

Leadership Competency	Career Level	Leadership Experience
Political Savvy	Sup	Considers impact when addressing employee expectations (e.g., working with union, relocations)
		Considers staff concerns or feedback regarding organizational changes
		Demonstrates knowledge of stakeholders and peers/leaders in the Agency
	Mgr	Evaluate political implications by considering different courses of action on a key issue
		Meets with key decision makers to ensure approval of resources to support needed adjustments and/or organizational change
		Discusses organizational change with employees to ensure their understanding; addresses known and potential concerns
		Understands the most appropriate time and methods for expressing needs and requesting resources
Vision	Sr/Dis Spec	Involves staff in setting annual goals, objectives, and measures to ensure buy-in
		Conveys vision of Agency to staff and stakeholders
		Articulates relationship between employees' work and Agency mission, vision, and objectives
	Sup	Directs and provides guidance to managers to develop long-term strategic plan
		Revisits unit vision periodically to ensure vision is being strived for and is still appropriate
		Reflects periodically on the current state of the Agency and identifies whether changes are necessary
		Articulates unit vision to allow others to recognize its value
	Mgr	Formulates short- and long-term strategies across organizational units that take a broad perspective and achieve significant results in support of organizational goals
		Communicates a vision by translating broad organizational goals into well-defined strategies, plans, priorities, and assignments
		Considers various viewpoints from internal and external sources when developing new organizational mission and vision

Leadership Competency	Career Level	Leadership Experience
Strategic Action and Thinking	Sr	Considers customer needs and trends in the development of strategic plans
		Conducts review of the Agency's core mission and gathers information from relevant sources to support development of a strategic plan
		Brainstorms ideas with team members to address needed updates/changes and develop strategies
	Dis Spec	Considers customer needs and trends in the development of strategic plans
		Conducts review of the Agency's core mission and gathers information from relevant sources to support development of a strategic plan
		Brainstorms ideas with team members to address needed updates/changes and develop strategies
	Sup	Assists with the development and implementation of Agency or State policy by determining target audience and building coalitions with the appropriate population
		Develops implementation strategies to meet business plan priorities
		Implements strategic objectives and develops metrics to assess attainment of goals
	Mgr	Anticipates changes (e.g., a demographic change, policy change) and establishes a plan to address the future needs of the Agency
		Designs approaches and procedures to develop a strategic plan supporting key goals and objectives
		Leads and directs a diverse strategic planning team tasked with addressing and outlining the future direction of the Agency

Occupational Competencies – Civil Engineer

These are the top occupational competencies of the job, applicable at all Career Levels. These should differentiate the job from other jobs within and across the career groups. Proficiency Rating Definitions are included in the Appendix. This list includes all of the occupational competencies associated with the Civil Engineer job.

**Table 20. Occupational Competencies –
Civil Engineer**

Occupational Competency	Proficiency Rating					
	Entry	Mid	Senior	Dis Spec	Sup	Mgr
1. Problem Identification/ Defining Objectives	1	2	4	5	4	5
2. Development of Alternatives – Decision Support	1	2	4	5	5	5
3. Data Collection and Analyses	1	3	4	5	5	5
4. Design	1	2	4	5	5	5
5. Construction Oversight	1	2	4	5	4	5
6. Quality Assurance	1	2	4	5	5	5
7. Hydraulic Engineering	1	2	4	5	5	5

Recommended Occupational Experience – Civil Engineer

These are the top experiences (e.g., stretch assignments), based on the Occupational Competencies, that an individual can participate in to prepare to be a viable candidate for the job.

Table 21. Recommended Occupational Experience – Civil Engineer

Occupational Competency	Career Level	Occupational Experience
Problem Identification/ Defining Objectives	Entry	Builds awareness of resource concerns common to his/her area of operations
		Attends meetings with customers during on-site visits
		Assists in documenting customer's needs during on-site visits
		Under supervision, develops understanding of how to assess resource concern
	Mid	Under supervision, assists in identifying resource concerns in increasingly complex situations
		Under some supervision, works to determine objectives for simple projects
		Meets with customers to obtain additional information to better understand their goals/objectives
	Sr/Sup	Provides training on methods to assess most resource concerns found in work area
		Provides expertise to identify resource concerns and define objectives in complex and/or unique situations within assigned work area
		Works with other agencies and/or entities to define resource concerns and objectives
		Provides expertise to prioritize resource concerns and objectives in collaboration with State/Federal/Tribal agencies, conservation partners, and/or other stakeholders
	Dis Spec/Mgr	Identifies the need and coordinates development of training at the National/Regional/State levels for identification of natural resource concerns
		Develops standard operating procedures for problem identification across a wide variety of landscape and situations
		Works with customers to determine requirements for unique or complex projects, including those projects that are extensively regulated or have high impact/visibility

Occupational Competency	Career Level	Occupational Experience
Development of Alternatives – Decision Support	Entry	Under close supervision, develops an awareness of different engineering alternatives commonly used in their service area
		Under supervision, develops familiarity with relevant NRCS references in order to develop alternatives
		Accompanies others to meetings with customers
	Mid	Understands basic engineering principles and practices in order to formulate routing alternatives
		With limited supervision, advises customers on appropriate engineering practices for routine alternatives
		With limited supervision, assists customers in selecting alternative(s) to address routine resource concerns
	Sr	Provides advice and guidance to employees on the development and selection of engineering practices
		Develops innovative alternatives to address complex resource concerns across a wide geographical area
		Applies engineering principles and practices in order to formulate complex alternatives
		Develops and provides training on the formulation and evaluation of alternatives
	Dis Spec/ Sup/Mgr	Engages multiple stakeholders in developing alternative solutions for unique or complex projects, including those projects that are extensively regulated or high impact/visibility
		Identifies the need and coordinates development of training at the National/Regional/State levels for the formulation and evaluation of alternatives
		Evaluates the technical merit of innovative alternatives for use in complex situations

Occupational Competency	Career Level	Occupational Experience
Data Collection and Analyses	Entry	Develops awareness of basic data collection requirements and techniques
		Under supervision, develops awareness of existing data that can be used in performing analysis
		Under supervision, collects basic data on routine sites and performs standard analyses
		Under supervision, develops familiarity with NRCS surveying, note taking, and documentation requirements
	Mid	Plans, collects, and analyzes data as required throughout each phase of a project
		Independently uses a variety of instruments for data collection (e.g., basic and high tech surveying instruments and techniques) and creates the required end-products
		Recognizes and requests specialized assistance (e.g., geologist, soil scientist) for data collection in more complex sites
		Provides basic training to others on data collection and analyses methodologies
	Sr	Reviews and approves data collection reports for highly complex and/or unique projects
		Trains others on data collection/analyses methods and techniques
		Recommends and integrates more advanced technologies, software, and equipment for data collection and analyses
		Develops innovative data collection techniques and analyses to address unique and/or complex engineering problems
	Dis Spec/ Sup/Mgr	Identifies the need and coordinates development of training at the National/Regional/State levels
		Develops National/State policies and procedures on data collection and analyses
		Reviews and approves the development of innovative data collection techniques and/or analyses
		Represents NRCS in expert panels, interagency working groups, etc. in

Occupational Competency	Career Level	Occupational Experience
		reviewing new technologies, equipment, or methods of data collection and analyses
Design	Entry	Under close supervision, develops an awareness of the NRCS design process and related skills for practices commonly used in their service area
		Under close supervision, develops an awareness of conservation practice standards and specifications
		Under close supervision, prepares routine design
	Mid	Independently prepares simple designs
		Under limited supervision, develops a complete design package for a routine project
		Under supervision, develops components of complex designs
		Under limited supervision, reviews routine designs developed by others
	Sr	Prepares designs and supporting documentation for complex engineering practices
		Performs reviews and approval of designs for complex engineering practices
		Provides advice and guidance for design interpretation and makes modifications as necessary during the construction phase for complex projects
		Performs structural and/or geotechnical analyses for the design of complex engineering practices
	Dis Spec/ Sup/Mgr	Develops National/Regional/State level policies and procedures on design preparation and review
		Creates innovative standards, design procedures, and construction specifications where none exist
		Performs reviews and approval of designs for the most complex or high impact/visibility projects
		Reviews and approves structural designs of complex engineering practices

Occupational Competency	Career Level	Occupational Experience
Construction Oversight	Entry	Under close supervision, participates in the interpretation of plans and specifications for construction of routine projects
		Under close supervision, develops understanding of construction contract provisions
		Under close supervision, assists in the verification of project completion
		Under close supervision, assists with the documentation of construction activities
	Mid	Under limited supervision, participates in the interpretation of plans and specifications for construction of routine projects
		Under limited supervision, verifies completion of components of routine construction project
		Under limited supervision, documents daily construction activities for routine construction projects
	Sr/Sup	Develops and recommends State-wide policies and procedures on construction oversight responsibilities
		Develops and maintains State construction and material specifications
		Integrates innovative techniques and technologies to improve state construction oversight
		Develops and provides training on NRCS policies and procedures with regard to contracting and construction oversight
	Dis Spec/ Mgr	Identifies the need and coordinates development of training at the National/Regional/State levels
		Develops and maintains construction and material specifications for use throughout the agency
		Identifies and develops innovative techniques and technologies to improve construction oversight at the National/State levels

Occupational Competency	Career Level	Occupational Experience
Quality Assurance	Entry	Under close supervision, develops basic understanding of the quality assurance processes
		Under close supervision, assists in implementing component(s) of a Construction Quality Assurance plan
		Observes engineering spot checks
		Under supervision, develops understanding of engineering job approval authority policy
	Mid	With limited supervision, implements a Construction Quality Assurance plan for a routine practice
		Assists in the development of reports to summarize results of quality assurance reviews
		Assists in conducting spot checks on routine engineering practices
		Earns engineering job approval authority for routine practices
	Sr	Serves as contracting officer's technical representative (COTR) on complex projects
		Concurs on the selection of the contracting officer's technical representative (COTR)
		Develops all phases of a Quality Assurance plan for construction projects
		Reviews spot checks and directs implementation of corrective actions
		Develops and provides training on policies and procedures with regard to quality assurance process
	Dis Spec/ Sup/Mgr	Identifies the need and coordinates development of training at the National/Regional/State levels
		Utilizes results from existing reviews to make modifications to policies and standards
		Integrates innovative techniques and technologies from other fields and disciplines to improve quality assurance policies and procedures
		Develops policies and procedures to conduct quality assurance reviews of new materials and technologies

Occupational Competency	Career Level	Occupational Experience
Hydraulic Engineering	Entry	Under close supervision, develops awareness of different hydrologic and hydraulic modeling techniques
		Develops an understanding of the hydrologic cycle and different flow regimes (e.g., open channel vs. pressure)
		Under close supervision, assists in the design of basic hydraulic engineering practices
		Under close supervision, collects hydrologic data for routine hydraulic engineering practice
	Mid	Under limited supervision, utilizes different hydrologic and hydraulic modeling techniques
		Under limited supervision, designs basic hydraulic engineering practices
		Under limited supervision, collects hydrologic data for hydraulic engineering practices
		Under limited supervision, performs basic hydrology calculations
	Sr	Provides expertise in hydrologic and hydraulic modeling techniques for complex projects
		Oversees and/or designs complex hydraulic engineering practices
		Coordinates the collection of hydrologic data for complex hydraulic engineering practices
		Performs complex hydrology calculations
		Develops and provides training to others on hydraulic engineering practices
		Recommends use of new hydrologic techniques/software
	Dis Spec/ Sup/ Mgr	Identifies the need and coordinates development of training at the National/Regional/State levels
		Develops National/Regional/State level policies and procedures on hydraulic engineering
		Reviews designs of complex hydraulic engineering practices
		Performs the most complex hydrology calculations for unique situations
		Reviews and approves the use of new hydrologic techniques/software

Recommended Education/Certifications – Civil Engineer

These are the recommended education/certification requirements to be able to attain each level of the Civil Engineer job. These recommendations are based on Office of Personnel Management (OPM) guidelines as well as Subject Matter Expert recommendations.

Table 22. Recommended Education and Certifications – Civil Engineer

Education/Certifications	Career Level					
	Entry	Mid	Senior	Dis Spec	Sup	Mgr
1. Completion of a 4-year engineering degree accredited by the Accreditation Board for Engineering and Technology as a professional engineering curriculum; or including differential and integral calculus and courses in five of the following areas: statics, dynamics, strength of materials, fluid mechanics, hydraulics, thermodynamics, electrical fields and circuits, nature and properties of materials	✓	✓	✓	✓	✓	✓
2. State Licensure				R	R	✓

R = Education/licensure that is recommended but not required to obtain the job at the specified level

Professional Associations – Civil Engineer

These ten professional associations are recommended as resources for individuals interested in the Civil Engineer job.

**Table 23. Professional Associations –
Civil Engineer**

American Society of Civil Engineers
American Society of Agricultural and Biological Engineers
National Society of Professional Engineers
American Society for Testing Materials
American Association of State Dam Safety Officials
International Erosion Control Association
American Water Resources Association
American Water Works Association
The American Concrete Institute
The Soil and Water Conservation Society

Appendix

Job Level Definitions

You will see “Entry,” “Mid,” “Sr,” “Dis Spec,” “Spv,” and “Mgr” career levels along with the necessary proficiency ratings for each of these levels. The table below explains the differences between each of the five possible career levels. Specifically, it provides an overview of each job level, followed by a high level description of the experience/knowledge associated with the job level, the type of duties they perform at that job level, and the supervisory responsibilities at that job level.

	Entry	Mid	Senior/ Technical	Discipline Specialist	Supervisor	Manager
Overview	Starting level of a career. Consists of individuals entering a field of work for the first time, as well as those still early in their career.	Full performance level. Individuals at this level are skilled enough to be independent contributors.	Advanced performance level. Individuals have enhanced technical knowledge or skills in a field.	Advanced performance level. Individuals have enhanced technical knowledge or skills in a field. Apply these knowledge/skills at a regional/national level.	First-line supervisory level. These individuals supervise non-supervisors.	Advanced supervisory level. These individuals typically direct the work of an organizational unit, (including supervising supervisors) and are held accountable for the unit's progress.

	Entry	Mid	Senior/ Technical	Discipline Specialist	Supervisor	Manager
Experience/ Knowledge	Minimal work experience in the area and foundational knowledge to begin a career in the field.	Sufficient work experience and knowledge in the area to perform all core functions of the job.	Sufficient work experience and technical knowledge to be considered a subject matter expert in the field.	Sufficient work experience and technical knowledge to be considered a subject matter expert in the field from a regional/ national perspective.	Sufficient work experience and knowledge in the area and organization to directly oversee the work of others.	Sufficient work experience and knowledge in the area and organization to direct the work of an organizational unit.
Duties	Performs basic position duties often under close supervision.	Performs the key duties of the position independently with little supervision.	Performs advanced position duties that may be based on: <ul style="list-style-type: none"> • Enhanced technical knowledge or skills in a field. • Extensive non-supervisory administrative responsibilities. 	Performs advanced position duties at the regional/ national level that may be based on: <ul style="list-style-type: none"> • Enhanced technical knowledge or skills in a field • Extensive non-supervisory administrative 	Performs first-line supervisory duties (e.g., supervising employees, performance appraisals and leave approvals).	Performs managerial duties such as managing work plans, schedules, and resources in order to meet organizational objectives.

				responsibili- ties		
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	Entry	Mid	Senior/ Technical	Discipline Specialist	Supervisor	Manager
Supervisor Responsibilities	None	None	None	None	Supervision of some employees, but does not supervise other supervisors.	Supervision of other supervisors.

Proficiency Scale Definitions

We prepopulated the necessary proficiency ratings for each career level based on the competency models and proficiency ratings that you developed. The proficiency scale is a 5-point scale that is used to suggest how knowledgeable individuals should be on a particular competency:

1 – Basic

- Applies the competency in the simplest situations
- Requires close and extensive guidance
- Demonstrates awareness of concepts and processes

2 – Foundational

- Applies the competency in somewhat difficult situations
- Requires frequent guidance
- Demonstrates familiarity with concepts and processes

3 – Intermediate

- Applies the competency in difficult situations
- Requires occasional guidance
- Demonstrates understanding of concepts and processes

4 – Advanced

- Applies the competency in considerably difficult situations
- Generally requires little or no guidance
- Demonstrates broad understanding of concepts and processes

5 – Expert

- Applies the competency in exceptionally difficult situations
- Serves as a key resource and advises others
- Demonstrates comprehensive, expert understanding of concepts and processes